

IN THE CLAIMS

1. (currently amended) A rotor comprising a plurality of rotor laminations, each set of said laminations having an outer periphery, a first set of rotor laminations comprising a plurality of slots having skew portions extending in a first direction, a second set of said rotor laminations comprising a plurality of slots having skew portions extending in a second direction, and a plurality of notches having an open end at said outer periphery and substantially aligned radially and coextensive radially with at least one of said skew portions, wherein at least one of said notches is occupied by a metal.

2. (original) A rotor core in accordance with Claim 1 wherein each of said notches extends axially with respect to a center axis of said rotor core.

3. (original) A rotor core in accordance with Claim 2 wherein each of said notches is coextensive with a respective one of said slots.

4. (original) A rotor core in accordance with Claim 1 wherein each of said notches extend axially with respect to a center axis of said rotor core and along an entire length of said core.

5. (original) A rotor core in accordance with Claim 1 wherein each of said notches extend axially with respect to a center axis of said rotor core and along a portion of said core.

6. (original) A rotor core in accordance with Claim 1 wherein a bridge of lamination material extends between at least one of said notches and a respective one of said slots.

7. (original) A rotor core in accordance with Claim 1 wherein no bridge of lamination material extends between at least one of said notches and a respective one of said slots.

8. (previously presented) A rotor core in accordance with Claim 1 wherein at least one of said notches has a rectangular cross sectional shape.

9. (original) A rotor core in accordance with Claim 1 wherein at least one of said notches has an irregular cross sectional shape.

10. (original) A rotor core in accordance with Claim 1 wherein a first notch is substantially aligned and coextensive with one of said skew portions of one of said slots in said first set of rotor laminations, and a second notch is substantially aligned and coextensive with one of said skew portions of one of said slots in said second set of rotor laminations.

11. (original) A rotor core in accordance with Claim 1 wherein a first notch is substantially aligned, for at least a portion of length of said first notch, with one of said skew portions of one of said slots in said first set of rotor laminations, and a second notch is substantially aligned, for at least a portion of a length of said second notch, with one of said skew portions of one of said slots in said second set of rotor laminations.

12. (original) A rotor core in accordance with Claim 1 wherein each of said slots comprises radially inner portions, and each of said notches is substantially aligned with a radial axis of one of said slot radial inner portions.

13. (original) A rotor core in accordance with Claim 1 further comprising a third set of rotor laminations comprising a plurality of slots having skew portions extending in the first direction.

14. (currently amended) A rotor for an electric motor, said rotor comprising:

a rotor core comprising a plurality of rotor laminations, each of said laminations having an outer periphery, a first set of rotor laminations comprising a plurality of slots having skew portions extending in a first direction, a second set of said rotor laminations comprising a plurality of slots having skew portions extending in a second direction, a plurality of notches having an open end at said outer periphery and substantially aligned radially and coextensive radially with at least one said skew portions, and a central rotor shaft opening, wherein at least one of said notches is occupied by a metal and remaining of said notches are occupied by at least one permanent magnet;

a rotor shaft having an axis which is coaxial with a rotor core axis of rotation and extending through said central rotor shaft opening; and

a plurality of secondary conductors extending through said ~~slots, slots, and~~

~~a plurality of permanent magnets located in said lamination notches.~~

15. (original) A rotor in accordance with Claim 14 wherein each of said notches extend axially with respect to a center axis of said rotor core and along an entire length of said core.

16. (original) A rotor in accordance with Claim 14 wherein each of said notches extend axially with respect to a center axis of said rotor core and along a portion of said core.

17. (original) A rotor in accordance with Claim 14 wherein a bridge of lamination material extends between at least one of said notches and a respective one of said slots.

18. (original) A rotor in accordance with Claim 14 wherein no bridge of lamination material extends between at least one of said notches and a respective one of said slots.

19. (original) A rotor in accordance with Claim 14 wherein a first notch is substantially aligned and coextensive with one of said skew portions of one of said slots in said first set of rotor laminations, and a second notch is substantially aligned and coextensive with one of said skew portions of one of said slots in said second set of rotor laminations.

20. (original) A rotor in accordance with Claim 14 wherein a first notch is substantially aligned, for at least a portion of length of said first notch, with one of said skew portions of one of said slots in said first set of rotor laminations, and a second notch is substantially aligned, for at least a portion of a length of said second notch, with one of said skew portions of one of said slots in said second set of rotor laminations.

21. (currently amended) An electric motor, comprising:

a stator comprising a stator core, first and second main windings, said first main winding configured to form a lower number of poles than said second main winding, said stator core forming a stator bore; and

a rotor core comprising a plurality of rotor laminations, each of said laminations having an outer periphery, a first set of rotor laminations comprising a plurality of slots having skew portions extending in a first direction, a second set of rotor laminations comprising a plurality of slots having skew portions extending in a second direction, a plurality of notches having an open end at said outer periphery and substantially aligned radially and coextensive radially with at least one of said skew portions, a plurality of secondary conductors extending through said slots, wherein at least one of said notches are occupied by a metal and remaining of said notches are occupied by at least one permanent magnet, wherein the at least one permanent magnet is magnetized to form a number of poles equal to the number of poles formed by said second main winding and a plurality of permanent magnets located in said lamination notches and magnetized to form a number of poles equal to the number of poles formed by said second main winding.

22. (original) An electric motor in accordance with Claim 21 wherein a first notch is substantially aligned and coextensive with one of said skew portions of one of said slots in said first set of rotor laminations, and a second notch is substantially aligned and coextensive with one of said skew portions of one of said slots in said second set of rotor laminations.

23. (original) An electric motor in accordance with Claim 21 wherein a first notch is substantially aligned, for at least a portion of length of said first notch, with one of said skew portions of one of said slots in said first set of rotor laminations, and a second notch is substantially aligned, for at least a portion of a length of said second notch, with one of said skew portions of one of said slots in said second set of rotor laminations.

24. (new) A rotor core in accordance with Claim 1 further comprising a lamination configured to be placed over the at least one of said notches before filling the at least one of said notches with the metal and is configured to be removed after filling the at least one of said notches with the metal.

25. (new) A rotor in accordance with Claim 14 further comprising a lamination configured to be placed over the at least one of said notches before filling the at least one of said notches with the metal and is configured to be removed after filling the at least one of said notches with the metal.

26. (new) An electric motor in accordance with Claim 21 further comprising a lamination configured to be placed over the at least one of said notches before filling the at least one of said notches with the metal and is configured to be removed after filling the at least one of said notches with the metal.